spectrum of such a diffused mass is likely to possess great interest, and the nebula is so large that it will probably not be difficult to differentiate the spectra of different regions.

(2) In his catalogue of stellar spectra, published in 1887, Konkoly records an observation of this star, in which bright lines were strongly suspected. Notwithstanding the recent additions to this group by Prof. Pickering and Mr. Espin, the number is still very small, and it is important that suspected cases should be fully investigated. The lines suspected by Konkoly in 69 Virginis were C, D_3, and F—the three commonly observed in β Lyræ and γ Cassiopeiæ. It is quite possible that the appearance of the lines is periodic, and observations should therefore be continued for some time. If the lines are of any considerable brightness, the observations ought not to be difficult, as the bright lines in the 8th magnitude stars in Cygnus are easily seen and measured with 10 inches aperture. Any irregularities in the continuous spectrum, especially in the green and blue, should be noted; and, if possible, comparisons should be made with the carbon flutings. Prof. Lockyer has pointed out that a line near λ 447 is associated with D_3 in the Orion nebula, and also in the solar chromosphere, and it is important to observe whether this also applies to the bright-line stars. He has demonstrated by photographs that the line in the nebula (447) is coincident with one of the bright lines photographed by Prof. Pickering in P Cygni.

(3) Dunér describes the spectrum of this star as a magnificent one of Group II., particularly in the red end. The bands 1–9 are all strongly marked. The star is thus probably a little more advanced in condensation than the mean species of the group, and it will be interesting to know what line-absorptions appear at this stage, and also what is the extent of carbon radiation.

(4 and 5) These are given in Vogel's catalogue as stars of the solar type and of Group IV. respectively. The usual observations are required in each case.

(6) This is one of the very few variables with spectra of Group VI. So far, we have no records of any changes in spectra which may accompany the variations in magnitude, and the cause of the variability is, consequently, very imperfectly understood. Dunér says that the spectrum consists of three zones rather feebly developed, band 6 (near λ 564) being weak, but he does not state the magnitude of the star at the time of his observation. The next maximum will occur about May 28. The star ranges from about magnitude 7·5 to $<$ 11 in a period of 461 days. Changes of colour should also be noted.

A. FOWLER.

SPICA.—At the Berlin Academy of Sciences on April 24, Prof. Vogel announced that Spica consists of two close stars revolving round their common centre of gravity. The star's spectrum is that of Class IV., and twice in April 1889 the F line appeared to be shifted towards the violet end of the spectrum as compared with the $H\beta$ line given by a vacuum tube, whilst once in the following month the shift appeared to be towards the red end. These observations and others made this year of the star's motion in line of sight are given in the following table, approach to the sun being indicated by (–) and recession from the sun by (+), both being expressed in German miles per second :—

Potsdam Mean Time.	h.	m.	Observed Motion.	Relative to the Sun.	$*-\odot$
1889 April 21 ...	9	15 ...	– 11·6 ...	– 0·7 ...	– 12·3
,, 29 ...	11	10 ...	– 12 ...	– 1·2 ...	– 13·2
May 1 ...	10	58 ...	+ 7·5 ...	– 1·3 ...	+ 6·2
1890 April 4 ...	11	30 ...	– 3·4 ...	+ 0·5 ...	– 2·9
,, 9 ...	10	30 ...	– 14·2 ...	+ 0·2 ...	– 14·0
,, 10 ...	11	30 ...	– 0·3 ...	+ 0·1 ...	– 0·2
,, 11 ...	10	50 ...	+ 7·6 ...	0·0 ...	+ 7·6
,, 13 ...	10	50 ...	– 14·7 ...	– 0·1 ...	– 14·8
,, 15 ...	10	0 ...	+ 11·3 ...	– 0·3 ...	+ 11·0

The observations have been reduced to the epoch 1890, April 2, 10h. Potsdam mean time, and the period of revolution of the system determined as 4 days 0·3 hours. The greatest motion in line of sight due to the orbital velocity is about 12 miles a second, and the system as a whole is moving towards the earth with a velocity of about 3 miles a second.

From this it is found that the distance between the components of the system is 660,000 miles, and their total mass = 1·2 that of the sun.

It will be remembered that Algol is a spectroscopic double of the same character as the above described.

THE METEORIC THEORY OF COMETS.—In the *Sidereal Messenger* for May, Mr. W. H. S. Monck discusses the evidence that has been brought forward in support of this theory, and in connection with the meteoritic origin of the universe. Only four comets are definitely known to be connected with meteor-showers; and conversely, only four meteor-showers have been connected with comets; these comets are all periodic, the longest period being 415 years. From this fact it is argued that there is not sufficient evidence to allow the assertion that all comets are connected with meteor-swarms and that the ejection theory advocated by the late Mr. Proctor is supported. It is asserted that, since an ejection from a rapidly cooling body may be partly solid, partly liquid, and partly gaseous, the gaseous matter might form the comet and the solid (or solidified) matter form the attendant meteors; but for this origin to be true the assumption must be made that two planets exist beyond Neptune. Mr. Monck argues that because Arcturus was seen through 90,000 miles of Donati's comet, whereas Saturn's rings (except perhaps the inner crape ring) are not transparent, the rings must be more than 1000 times as dense as the comet at the point where it crossed between us and Arcturus, hence meteoritic collisions should be more frequent and the effect of the increased temperature should be made clearly manifest in the spectrum. The meteoritic hypothesis is not, however, objected to as a working hypothesis, but is said to be on an equality with the older nebular hypothesis; and the writer does not think the spectroscope will ever afford a crucial test between the two, for the reason that it cannot distinguish between a large solid, surrounded by a gaseous envelope, and a number of small bodies with interspaces filled with gas.

MASS OF SHOOTING-STARS.—Mr. C. C. Hutchins, in the *American Journal of Science* for May, gives the result of an investigation undertaken with the object of finding data for determining the mass of shooting-stars. Having determined the radiant energy of the standard candle, it was found that on the supposition that the rays of a meteor have the same ratio of visible to total energy as those of the candle, the mass of a meteor at a distance of 50 miles, having a magnitude equal to Vega and a velocity of 25 miles per second, would be 0·2936 gram if it continued two seconds. If the meteor in burning produce, for a given expenditure of energy more light than the candle, then a less mass would serve to produce the light given by it. A lump of the Emmett Co. (Iowa) iron meteorite was placed upon the lower carbon of an arc lamp and vaporized by the passage of the current, and it was found that for a given expenditure of energy the arc of meteoritic vapour gave ten times the light of the candle, hence the mass of a meteor giving the light of a first magnitude star moving with parabolic velocity, and lasting for two seconds, is 0·029 gram.

PHOTOGRAPHS OF THE MOON.—Admiral Mouchez, at the meeting of the Paris Academy of Sciences of May 12, presented a note on some new photographs of the moon obtained by the Brothers Henry at Paris Observatory. The instrument used was the equatorial 0·32 metres aperture, destined for the map of the heavens. The photographs are said to be far superior to those obtained in England and the United States with larger apertures, the superiority of the results being ascribed not only to the perfection of MM. Henry's objectives, but also to the method of direct enlargement adopted.

THE ROYAL SOCIETY CONVERSAZIONE.

THE *conversazione* held by the Royal Society on May 14 was in every way most successful. The attendance was large, and everyone was pleased and interested by the programme. We note some of the objects exhibited :—

The Director-General of the Geological Survey exhibited :—(1) A series of specimens illustrating deep borings in the south of England. In this case was arranged a series of cores and specimens from all the deep bores which during the last thirty years have been made in the south of England in search of water. They included the borings at Richmond, Crossness, Kentish Town, Meux's Brewery, Streatham, Turnford, Ware, Chatham, Gayton and Orton in Northamptonshire, Harwich, and Swindon. The positions of these bores were shown on the large index map suspended in the same room.—(2) Series of specimens illustrating the dynamical metamorphism of rocks. This case contained an important collection of specimens from Switzerland, Norway, and Scotland, illustrating some of the more remarkable effects of the mechanical deformation and recrystallization of rocks. The first series was one of specimens of Triassic and Jurassic dolomites and limestones from Canton Glarus, showing the extraordinary manner in which these rocks have been squeezed and puckered. Attention was particularly directed to the evidence afforded by the fossils (*Belemnites*) of the extent to which the strata have been stretched in some parts. The second series, from the south of Bergen, showed the presence of recognizable Silurian corals and trilobites in rocks which have been so much metamorphosed as to have acquired the characters of finely crystalline phyllite or micaceous schist. The third series, from the north-west of Scotland, illustrated how a massive quartzite, full of annelide-tubes, has been crushed and recrystallized until it has assumed the structure of a quartz-schist, and all trace of the fossils has been obliterated. The effects of mechanical movements even among the comparatively young and soft rocks of the south of England were illustrated by two specimens placed in this case from the under-surface of a "thrust-plane" in the vertical chalk of the Dorsetshire coast. They showed how the chalk has been indurated, smoothed, and polished by the movement of the overlying mass. A view and section of this thrust-plane were placed beside the specimens.

Specimens of minerals brought from Ceylon by C. Barrington Brown, exhibited by Prof. J. W. Judd, F.R.S. Large perfectly crystallized and clear beryl, 2650 grammes in weight. The specimen, though water-worn, exhibits the crystalline form. The colour is intermediate between that of emeralds and aquamines. The specific gravity is 2·703. Fine crystal of yellow corundum (oriental topaz). Well developed crystals of corundum (sapphires, &c.). Crystal of chrysoberyl from the same district.

Maps to illustrate magnetic surveys of special districts in the United Kingdom, exhibited by Profs. Rücker and Thorpe, FF.R.S. The arrows represent the horizontal disturbing forces in magnitude and direction. The figures give the vertical disturbing force in terms of 0·00001 C.G.S. units, taken as positive when it acts downwards. In some maps, regions of great (downward) vertical force are indicated by deeper tints. Map 1. Indications of an attracting centre at sea, to the south of the Hebrides. Map 2. Horizontal disturbing forces at stations near the boundaries of a district in Yorkshire and Lincolnshire, within which there is a locus of attraction. Map 3. Regions of high vertical force within the above district. The highest observed values are at Market Weighton and Harrogate. Map 4. Ridge line or locus of attraction drawn (continuous line) by connecting stations of maximum vertical force, and (dotted line) by connecting points midway between the stations at which the direction of the horizontal force disturbance changes. Map 5. Ridge line, 150 miles long, probably correct to within five miles for the greater part of its length.

Mr. C. V. Boys, F.R.S., exhibited:—(1) Oscillating spark experiment. This is a modification of the method employed by Dr. Lodge to show the oscillatory nature of a spark formed under proper conditions. Six lenses are mounted on a disk, and are made to rotate. Each forms upon a screen an image of the spark, which is drawn out by the movement of the lens into a broken band of light. The lenses are not exactly the same distance from the axis, so that the band formed by one is not overlapped by the band formed by the next. Thus the whole duration of the spark from the first to the last oscillation may be observed or photographed.—(2) Photographs showing the formation of drops. Water drops, half an inch or more in diameter, were allowed to slowly form and break away in a liquid of slightly lower specific gravity—namely, a mixture of paraffin and bisulphide of carbon. Photographs of these were taken as follows: they were illuminated by an electric arc and large condensing lenses, a camera was placed in front, and the view was rendered intermittent by a card disk with one hole near the edge made to rotate at from fourteen to twenty turns a second. The exposure was about one eight-hundredth of a second. Forty inches of photographic plate were arranged in a long slide which could be drawn past by hand. Three of these multiple photographs are exhibited. The thaumatrope was made by sticking the separate parts of the last series round a card disk, and afterwards painting the surface black and white, following the outlines of the photographs exactly. The thaumatrope clearly shows the gradual formation of the drop and the spherule, the oscillation of the pendant drop immediately afterwards, the rebound of the spherule from the pendant drop, the oscillation of the large drop as it falls, and its rebound from the water below into which it fell. Other photographs are shadows of water jets cast upon a photographic plate by the action of a small distant spark, a method invented by Mr. Chichester Bell. The remainder are photographic shadows cast by a water jet upon a rapidly moving plate by the intermittent light of an oscillating spark. These clearly show the movement of the separate water drops.

Sugar-cane (*Saccharum officinarum*) seed and seedlings, exhibited by Mr. D. Morris. There appears to be no authentic record of any really wild station for the sugar-cane, and the fruit has not hitherto been figured or described. At Barbados, several times during the last twenty years, and more recently by Prof. Harrison and Mr. Bovell, self-sown seedlings of the sugar-cane have been observed. The subject was taken up systematically in 1888, and about sixty of the seedlings raised to mature canes. Many of these exhibited well-marked characteristics differing from the varieties growing near them. Careful inquiry has shown that canes known as the "purple transparent" and "white transparent," and possibly also the "Bourbon" cane, produced seeds in very moderate quantities. Spikelets received at Kew have been examined and the seed found *in situ*. It is anticipated that, by cross-fertilization and a careful selection of seedlings, it will now be possible to raise new and improved varieties of sugar-cane, and renew the constitutional vigour of plants that have become deteriorated through continuous cultivation by cuttings or slips. Great importance is attached to the subject in sugar-producing countries, as it opens up an entirely new field of investigation in regard to sugar-cane cultivation.

Prof. H. Marshall Ward, F.R.S., exhibited a selection of transparent photographs, showing (1) the habits, &c., of various trees from different parts of the world; (2) the comparative structure and anatomy of several European timbers; and (3) some of the more prominent features of diseases of wood, &c., and fungi causing them.

The electrification of a steam jet, exhibited by Mr. Shelford Bidwell, F.R.S. The shadow of a small jet of steam cast upon a white wall is, under ordinary conditions, of feeble intensity and of a neutral tint. But if the steam is electrified, the density of the shadow is at once greatly increased, and it assumes a peculiar orange-brown hue. The electrical discharge appears to promote coalescence of the exceedingly minute particles of water contained in the jet, thus forming drops large enough to obstruct the more refrangible rays of light. It is suggested that this experiment may help to explain the intense darkness, often tempered by a lurid yellow glow, which is characteristic of thunder-clouds. See *Phil. Mag.*, Feb. 1890, p. 158.

Mr. Killingworth Hedges exhibited:—(1) Gramme dynamo worked as a motor, fitted with bearings of a new carbon composition, which does not require oil for lubrication.—(2) Vortex speed indicator, driven by the above, fitted with oilless bearings.

Lord Rayleigh, Sec.R.S., exhibited:—(1) An instrument for testing colour vision.—(2) Polarization of light by chlorate of potash crystals.

Photographs of eggs of the Great Auk, exhibited by Mr. Edward Bidwell. There are 67 recorded eggs of this extinct bird, of which 45 are in Great Britain. The collection of photographs exhibited consists of two views each of 53 of these eggs, photographed to scale.

Specimens of Simony's Lizard (*Lacerta simonyi*), from the lonely rock of Zalmo, near the Island of Ferro, Canaries, exhibited by the Zoological Society of London. A rare lizard, only known from this spot, and said to feed on crabs. These lizards were obtained by Canon Tristram, F.R.S., during his recent visit to the Canaries, and presented to the Zoological Society by Lord Lilford.

Electric-radiation meter, for obtaining quantitative measurements of the intensity of the radiations emitted by an electric oscillator, exhibited by Mr. Walter G. Gregory. Its action is based on measuring the increase of length of a stretched wire, or strip of metal, when heated by the currents induced in it by the rapidly varying field of force. In the instrument exhibited, the elongation of a fine platinum wire is shown by attaching to one end of it a fine helical spring made by winding a thin metallic ribbon round a cylinder. As the wire extends the spring rotates, and the motion is further magnified by a small mirror which reflects the image of a wire on a scale. The oscillator is of the usual type, and is worked by an induction coil and four accumulators, the latter kindly lent by the Electric Construction Corporation.

Breath figures, showing that polished surfaces placed near to bodies in low relief often take an impression of the detail, which is made visible by breathing upon the surface (the period of exposure varying in different circumstances), exhibited by Mr. W. B. Croft. (1) A coin is lightly pressed on a freshly split surface of mica for 30 seconds; the mica takes a breath figure of the detail of the coin. (2) Paper printed upon one side has lain for 10 hours between two plates of glass; the print appears in white letters on both. Part of this phenomenon, although not with print, was noticed by Moser in 1840. (3) Sometimes the print appears in black letters; the same impression may change from white to black. (4) Coins are put on the two sides of a piece of glass and electrified for two minutes; each side has a perfect impression of that side of the coin which faced it. An electrotype plate may be reproduced in a similar way. These effects were partly indicated by Karstens in 1840. (5) An electric spark is sent across glass. Five superposed bands appear, black and white, of decreasing breadths, as well as three permanent scars. Riess, 1840. (6) The microscope shows water particles over the whole surface, larger or smaller as the effect is black or white.

Prof. Silvanus P. Thompson exhibited:—(1) Optical rotator. This apparatus is for rotating the plane of polarization of light, and is intended to be used in conjunction with polarizing reflectors (black-glass mirrors, &c.), which do not admit of being bodily rotated around the axis of the beam of light. The principle of the new rotator consists in the employment of two quarter-wave plates of mica, one of which is fixed at 45° across the plane-polarized beam of light, which it thus converts into circularly-polarized light. The second quarter-wave plate, which can be rotated by a simple gear, reconverts the circularly-polarized beam into plane-polarized light, vibrating in any desired azimuth. (Constructed by Messrs. Newton and Co.)—(2) Natural diffraction-grating of quartz. This specimen of iridescent quartz exhibits diffraction-spectra corresponding to those of a grating ruled to 12,000 lines to the inch. A microphotograph taken by Mr. C. L. Curteis, with a Reichert's apochromatic (3 mm.) lens, shows the nature of the minute structures of the specimen. For the sake of comparison, a diffraction-grating of 6000 lines to the inch, photographed on glass, is exhibited beside the piece of quartz.—(3) New straight-vision prisms, consisting each of a single prism of Jena glass, of very wide angle, immersed in cinnamic ether. The materials having identical mean refractive index, rays of mean refrangibility pass straight through. (Constructed by Messrs. R. and J. Beck.)—(4) Colour experiments. Two liquids, incapable of mixing, are placed over one another in a flat bottle. They are chosen so that each absorbs all the rays that the other one can transmit. Though each is transparent, they are jointly absolutely opaque. They are also opaque when shaken up together.

Experimental illustration of the recent investigations of M. Osmond on molecular changes which take place during the cooling of iron and steel, exhibited by Prof. W. C. Roberts-Austen, F.R.S. In the case of mild steel, containing 0·5 per cent. of carbon, as it cools down from a temperature of 1100° C., two points may be observed at which heat is evolved. The first of these occurs at 750° C., and marks the change of β (or hard) iron to α (or soft) iron. The second evolution of heat is observed at 660°, and is due to a change in the relation of the carbon and iron. M. Osmond, in continuing an investigation made by Roberts-Austen, has shown that the presence in iron of elements with small atomic volumes retards the change of β to α iron, and, conversely, elements having large atomic volumes hasten the change.

Specimen of phosphorous oxide, and apparatus for preparing same, exhibited by Prof. Thorpe, F.R.S., and Mr. Tutton. This substance has been shown by the exhibitors to be represented by the formula P_4O_6. It crystallizes in monoclinic prisms melting at 25°·5, and boils in an atmosphere of nitrogen or carbon dioxide at 173°. Cold water dissolves it with extreme slowness, forming phosphorous acid. With hot water, strong caustic alkalies, chlorine, bromine, and alcohol it reacts with great energy, generally with inflammation. Oxygen slowly converts it, at ordinary temperatures, into phosphoric oxide, and under diminished pressure the combination is attended with a faint luminous glow similar to that observed in case of phosphorus. No ozone, however, is formed. At slightly higher temperatures the oxidation is brought about instantly with production of flame. Phosphorous oxide possesses the smell usually attributed to phosphorus, and which is identical with that noticed in match manufactories. It is highly probable, as Schönbein surmised, that the element phosphorus is without smell, and that the smell ordinarily perceived is due to a mixture of ozone and phosphorous oxide. Phosphorous oxide is highly poisonous, and it is not improbable that phosphorus necrosis is caused by this substance.

Photographs of the spectrum of the nebula in Orion, exhibited by Prof. J. Norman Lockyer, F.R.S. These photographs were taken in February with the 30-inch reflector at Westgate-on-Sea, the exposures varying from 2 to 3 hours. The one taken with a 3 hours' exposure (February 10) shows about 50 lines between λ 500 and λ 373, but many of them are only visible with difficulty, especially in artificial light. The Henry Draper Memorial photograph of the spectrum of P Cygni was shown for comparison, and it was seen that all the bright lines were amongst the brightest in the nebula. This argues in favour of the view that stars with bright-line spectra are of a nebulous character.

Photograph of the two clusters (33 and 34 ♅ VI.) in the sword-handle of Perseus, showing remarkable coronal and festoon-like groupings amongst the stars on several parts of the photograph, exhibited by Mr. Isaac Roberts. These clusters are quite free from nebulosity, and in this respect they differ from other clusters which Mr. Roberts has photographed; for those clusters are involved in faint but distinct nebulosity.

The larvæ of Amphioxus, exhibited by Prof. E. Ray Lankester, F.R.S.

A selection from the butterflies collected in the great equatorial forest of Africa by Mr. William Bonny, one of Mr. Stanley's staff, exhibited by Mr. Henley Grose-Smith. Little was known of the Lepidoptera of this part of Africa; few of the species collected by Mr. Bonny have been previously recorded from that region, and nine are new to science. The collection includes, amongst others, the great *Papilio antimachus*, also *Papilio zalmoxis*, and many West African species.

Collection of iridescent crystals of chlorate of potash to illustrate the production of colour and its intensification by reflection from multiple thin plates, exhibited by Dr. Alex. Hodgkinson.

Dr. Alexander Muirhead exhibited:—(1) Some patterns of Dr. Lodge's lightning protector for cables and for telegraphic work generally. In these instruments a series of air-gaps, separated by self-induction coils, are offered to the lightning, or other high-tension currents, which have got into the line. The greater part of the flash jumps the first air-gap, most of the residue jump the next, and so on, until after four or five dilutions nothing is left which can break down the thinnest insulation, or appreciably affect even a delicate galvanometer connected to the protected terminals.—(2) Muirhead's portable form of the Clark standard cell, in cases, with thermometer.—(3) Standard condenser, $\frac{1}{3}$ microfarad (with Dr. Muirhead's certificate).—(4) Set of Thomson and Varley slides, small.—(5) Saunders's capacity key, suitable for Dr. Muirhead's capacity test.—(6) Saunders's reversing key.

Specimens of aluminium and alloys manufactured by the Aluminium Company, Limited, exhibited by Sir Henry E. Roscoe, F.R.S. Pigs of aluminium, 99 per cent. pure. Castings in aluminium, rough and finished. Specimens of aluminium, soldered. Aluminium wire, sheet and drawn rod. Aluminium medals, plain and gilt. Cast aluminium bronze and brass, showing (*a*) tensile strength and elastic limit; (*b*) twisting stress; (*c*) thrusting stress, long specimens; (*d*) thrusting stress, short specimens. Stampings in aluminium bronze, rough. Ten per cent. aluminium bronze, twisted cold. Five per cent. aluminium bronze, worked hot and cold. Aluminium brass, worked hot and cold. Aluminium bronze and brass sheet.

Specimens illustrating ancient copper and bronze from Egypt and Assyria, exhibited by Dr. Gladstone, F.R.S. The collection consists of borings from tools found by Mr. Flinders Petrie, at Kahun, in Egypt, and which belong to the XII. Dynasty—about B.C. 2500; also from other tools found at Gorub, which belong to the XVIII. Dynasty—about B.C. 1450. There are also fragments of Egyptian bronze figures from Bubastis, and of Assyrian bronze from the gates of the Palace of Shalmanezer II., at Balawat—about B.C. 840; as well as two pieces of slag from the old copper mines of the Sinaitic Peninsula, which were worked by the Egyptians in very early times, and discontinued after the XVIII. Dynasty. The principal point illustrated is the fact that the earliest metal implements were of copper, containing a very little arsenic and tin, probably as accidental impurities, and that afterwards tin was added to the copper in increasing proportions with the object of producing a hard alloy.

Mr. Percy Newberry, exhibited by permission of Mr. W. M. Flinders Petrie:—(1) Three pages of an ancient Egyptian book on medicine written on papyrus, by a scribe named Usertesen Sen, in the twenty-sixth or twenty-fifth century before Christ. This papyrus, together with a number of others of the same date referring to miscellaneous subjects (letters, legal documents, accounts, a fragmentary treatise on mathematics, &c.), was recently discovered by Mr. W. M. Flinders Petrie, during excavations in a ruined town of the XII. Dynasty, at Kahun, in Central Egypt. It contains directions for the use of midwives, written in black and red ink, in hieratic characters (a cursive or written form of hieroglyphics). The black ink is used in the body of the work for the symptoms, diagnoses, and prescriptions, and the red ink is used at the heads of the sections. The following translation of the last two and a half lines of the first page will serve to show the kind of directions given in this ancient work:—"*Treatment of a woman*[1] who is pained in her legs and in all her limbs, as one who is beaten. *Say with regard to her,*[1] it is the growth of the *at* (vulva). *Do thou with regard to her*[1] thus: let her eat grease until she is cured."—(2) Facsimile of an unpublished papyrus preserved in the British Museum containing medical prescriptions written in the Egyptian hieratic writing of the XIX. Dynasty (B.C. 1400–1200). This papyrus is chiefly interesting from the fact that it contains prescriptions copied from an earlier work, now lost, which is said (by the ancient copyist) to have dated from the IV. Dynasty (*circa* B.C. 4000). Facsimiles of these two papyri, together with translations, notes, &c., will shortly be published, under the editorship of Mr. F. Ll. Griffith and Mr. Newberry.

Egyptian spear-head of bronze, bearing the name and titles of Kames, a king at the end of the XVII. Dynasty, *circa* 1750 B.C., exhibited by Dr. John Evans, Treas. R.S. The blade is cast, and the socket is made of hammered bronze, and these two pieces that form the weapon seem to have been "burnt" together.

MM. Richard Frères, Paris, exhibited:—(1) Continuously recording hair hygrometer. This is the latest form of the Saussure hair hygrometer, so much used on the Continent, owing to its working satisfactorily when most other hygrometers fail, viz. near 32° F. In some of Saussure's instruments more than one hair was used, but in none did the apparatus give a continuous record. In the present hygrometer, the expansion and contraction of a bundle of hairs raise and lower a pen, which leaves on a paper-covered cylinder a continuous record of the humidity of any position, garden, or sick-room in which it may be placed.—(2) Curves produced by the anemometers on the summit of the Eiffel Tower, and on that of the Central Meteorological Office at Paris. These show (1) that the average velocity of the wind on the top of the tower (994 feet) is about $3\frac{1}{2}$ times that at 66 feet, and (2) that the hour of greatest average velocity on the summit was 11 p.m., whereas at 66 feet (as at most observatories), it was 1 p.m.; so that the times of maximum and minimum are almost precisely reversed.—(3) Isochronous regulator for electric contacts. An instrument for making and breaking electrical contact at equal intervals of time.

Chætopodæ, Medusæ, Ascidians, Nudibranchs, and other Invertebratæ, prepared as lantern slides, showing not only the general form, but also much of their anatomy, exhibited by Mr. H. C. Sorby, F.R.S. The success of the method depends on the fact that when soft-bodied animals are dried on glass the extreme edge dries first, and adheres firmly, so that on further drying the animal does not contract irregularly, but becomes thin and flat, and shows like a drawing projected on the plane of the glass. In many cases the natural colour is well seen, but in other cases artificial staining is used, which brings out the anatomical structure to great advantage. In some cases the specimens are best seen by reflected light, and it is then well to use a photographic slide, taken under such conditions. Some details may also be brought out to greater advantage by means of a properly developed photograph.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Among the distinguished persons on whom honorary degrees will be conferred at the *Comitia Maxima*, on June 10, are the following:—Mr. Henry M. Stanley, Sir Andrew Clark, F.R.S., President of the Royal College of Physicians, Jonathan Hutchinson, F.R.S., President of the Royal College of Surgeons, George Richmond, R.A. (retired), Prof. J. J. Sylvester, F.R.S., Dr. John Evans, Treasurer R.S., and Alexander J. Ellis, F.R.S.

A discussion by the Senate took place on May 17, on the proposal, recently referred to in NATURE, that the experimental work in chemistry carried on by candidates previous to the Natural Sciences Tripos Examination (Part II.) should be allowed to count in determining the places in the Class List. The opinions expressed by members of the Senate were, in general, unfavourable to the proposal, as tending to diminish the confidence felt in the independence of the Examiners. It was stated that it would be impossible to make commensurable in practice the testimonials to the work of candidates given by different teachers; and further, that it would tend to make the superintendence of that work more formal, and so diminish its freshness and originality.

The Council of the Senate report that in January 1887, the late Mrs. Clerk Maxwell bequeathed the residue of her estate to the University for the purpose of founding a Scholarship in the Cavendish Laboratory at Cambridge, to be called the "Clerk Maxwell Scholarship." The estate of the testatrix has now been realized, and the residuary account furnished by the executors shows a balance of £5963 14*s.* 10*d.* with accruing interest on the sum of £5000 deposited with the National Bank of Scotland. After consulting the Lucasian and Cavendish Professors and Mrs. Clerk Maxwell's executors, the Council have framed regulations for the Scholarship, of which the following are the most important:—

A Scholarship to be called the Clerk Maxwell Scholarship shall be instituted in the University in connection with the Cavendish Laboratory, for the advancement by original research of experimental physics, and especially of electricity, magnetism, and heat.

The person elected to the Scholarship shall be called the Clerk Maxwell Student in Experimental Physics.

Any member of the University who has been a student for one term or more in the Cavendish Laboratory shall be eligible for the Scholarship.

The Electors to the Scholarship shall be the Cavendish Professor of Experimental Physics and the Lucasian Professor of Mathematics, and in case of any difference of opinion between them the final decision shall rest with the Master of Trinity College or with someone specially appointed by him for this purpose.

The Electors, in electing the student, shall be guided by the promise shown by the candidate of capacity for original research in experimental physics, and shall take such steps as they may think desirable to enable them to form a judgment of such promise.

The student so elected shall devote himself, under the direction of the Cavendish Professor, to original research in experimental physics within the University; he may, however, carry on his researches elsewhere if he has first obtained the written permission of the Cavendish Professor to do so.

The Scholarship shall be tenable for three years, and a student who has once held the Scholarship shall not be capable of re-election.

SCIENTIFIC SERIALS.

THE most important paper of original research in the numbers of the *Journal of Botany* for March, April, and May, is the conclusion of Mr. G. Massee's "Monograph of the Genus *Podaxis*," in which he gives his views of the systematic position of this genus of Fungi consequent on some recent discoveries as to its structure, together with descriptions of the seven known species, one of them new.—Messrs. H. and J. Groves describe and figure an interesting addition to the British flora in the minute *Nitella Nordstedtiana.*—Dr. W. O. Focke gives a description of no less than fifty-two species or forms of British *Rubi.*—Mr. R. A. Rolfe contributes a monograph of a small and interesting genus of Orchids, *Scaphosepalum.*—Mr. E. M. Holmes enumerates the marine Algæ of Devon.—Messrs. Britten and Boulger's "Biographical Index of British and Irish Botanists," has now advanced as far as the letter Q.

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[1] In red ink.